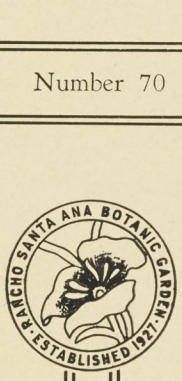
RANCHO SANTA ANA BOTANIC GARDEN
LEAFLETS
of
POPULAR INFORMATION

Number 70 May 5, 1944



1944

CROSSOSOMA CALIFORNICUM

APPLE BLOSSOM-BUSH

RANCHO SANTA ANA BOTANIC GARDEN
of the
NATIVE PLANTS OF CALIFORNIA
Santa Ana Cañon, Orange County, California
Established 1927 in Memory of
JOHN W. BIXBY

Number 70 May 5, 1944

CROSSOSOMA CALIFORNICUM
APPLE BLOSSOM-BUSH

Crossosomataceae Crossosoma Family

Erect or rounded shrub generally 4-6 ft. high, occasionally 10-12 ft. high, with numerous gray-barked branches arising from near ground level, these rarely over 2 in. thick. Herbage glabrous; leaves alternate, entire, blue-green or glaucous, much lighter beneath than above; petioles less than $\frac{1}{4}$ in. long; blades 2-3 in. long, more or less oblong, usually slightly obtuse and mucronate at tip. Flowers white, showy, borne from winter buds in the upper axils of short branchlets, on peduncles $\frac{1}{2}$-1 in. long (longer in fruit), usually naked, but sometimes with a small bract; calyx of 5, rounded, reddish-green, slightly fleshy sepals $\frac{3}{8}$ in. long; petals 5, rounded, almost clawless, crinkly, $\frac{3}{8}$ in. long; stamens about 30, filaments $\frac{1}{8}$ in. long, anthers yellow, 2-celled; follicles (single carpelled fruits) usually 2-4, sometimes more, reddish, $\frac{3}{8}$ in. high, bearing a capitate stigma. Mature fruits over an inch long, $\frac{1}{4}$ in. thick, cylindrical with a curved beak, containing about 25, rounded shiny black seeds in 2 rows, surrounded by the brownish, fimbriate arils (appendages from the base of seeds). In germination the cotyledons appear above ground, are foliar, $\frac{3}{8}$ in. long, $\frac{1}{8}$ in. wide, next few leaves are opposite, similar to mature ones, but usually less than $\frac{1}{2}$ in. long. Flowers in late winter or early spring; fruits mature in May and June.

The genus *Crossosoma* (from Greek words meaning fringe and body, in reference to the peculiar appendages of the seeds) consists of but 2 species, which together comprise the *Crossosomataceae,* a family closely related to the *Rosaceae*. The only other species is *C. Bigelovii,* an inconspicuous and comparatively rare shrub of the Colorado Desert, Arizona and Baja California.

Crossosoma californicum (meaning of California) was described in 1847 by Thos. Nuttall (English-American botanist, 1786-1859), based upon specimens collected by Dr. Wm. Gambel, a Philadelphia ornithologist and plant collector, who visited Santa Catalina Island in February, 1847. The plant genus *Gambelia* was proposed in his honor by Nuttall, but is now generally consolidated with *Galvesia* (see Leaflet No. 60). *Lophortyx gambeli* also is named in his honor and is variously known to sportsmen and nature lovers as Gambel Quail, Gambel Partridge or Desert Quail.

Distribution of *C. californicum* is strictly insular, having thus far been found only on Santa Catalina, San Clemente and Guadalupe Isls. Our field knowledge of the species is based on observations of it only on Santa Catalina Isl. It is a fairly common shrub on the rocky slopes of that island, but is not an important part of the chaparral. This shrub has adapted itself admirably to the California wet and dry seasons. Following the fall rains the plants put forth new leaves and oftentimes burst into full bloom, but ordinarily have an early spring flowering period. The fruits develop rapidly and are ripe in May and June. With

the coming of the long, dry and usually hot summer season, which even on Santa Catalina Isl. is nearly as pronounced as on the adjacent mainland, the shrubs of *Crossosoma* become completely dormant. The leaves gradually turn brown and the entire plants appear dead. The brown leaves hang on throughout most of the summer and fall, but drop off promptly following the first fall rains and the swelling of the buds for the production of new leaves. Plants with somewhat similar dormancy are common in California and have been called æstivators (see Leaflet No. 47). Residents of Santa Catalina Isl. who are familiar with this plant have named it Apple Blossom-Bush, an apt choice since the flowers bear a strong resemblance to those of the true apple.

We have propagated Apple Blossom-Bush since January, 1930 when 35 small plants were dug near Avalon, Santa Catalina Isl. and were planted out in the Garden a few weeks later. Of these, 15 are still alive and some are over 8 ft. tall. In May, 1932 we collected seeds from a plant back of Pebbly Beach, near Avalon. These were planted in seed flats in February, 1933. Germination was excellent and no difficulties were encountered in handling the seedlings, which produced numerous fibrous roots as well as long taproots. In February, 1934 the one-year-old seedlings were planted out in the Garden. Of the 150 plants set out at that time in one bed, about 125 are still alive and range from 3-7 ft. in height. The planting is on a gentle south slope in fairly heavy soil underlaid with sandstone, and only during the first few years was irrigation practiced. Early every spring these plants produce a fine display of white flowers against a background of soft blue-green foliage. On several occasions they have burst into full bloom in the late fall following early rains and mild weather. During the summer the plants with brown and dead leaves appear just as lifeless as those on Santa Catalina Isl. A second planting in the Garden is located on a north slope and has bushes with a more open growth habit, fewer flowers and retains the leaves for a longer period in summer. However, a few of these plants have died, apparently from excessive moisture and poor drainage in winter.

In our opinion, Apple Blossom-Bush is of some horticultural interest because of its profusion of white flowers and soft blue-green foliage, and is suitable for use in the mild coastal districts of California. We do not suggest its use for the average garden because of its long period of summer dormancy, but where dry banks, canyon sides or other areas are planted to California native plants and no care or irrigation is contemplated after the plants are established, this species should be given a place.

Crossosoma Bigelovii, is a strictly desert shrub, has small fascicled leaves, small white flowers and is of little or no ornamental value. Attempts to grow it at Rancho Santa Ana Botanic Garden have met with failure.

CARL B. WOLF

RANCHO SANTA ANA BOTANIC GARDEN

Dedication of Garden Foundation to the Board of Trustees for the Rancho Santa Ana Botanic Garden of the Native Plants of California:

"THE NATURE, OBJECT AND PURPOSE OF THE INSTITUTION HEREBY FOUNDED AND TO BE MAINTAINED HEREUNDER.

ITS NATURE: A botanic garden of the native plants of California, herbarium and botanical library, containing living and/or preserved specimens of trees, plants and flowers native to California, and literature relating thereto.

ITS OBJECT: The preservation and improvement of the property now transferred and such property as may hereafter be transferred to the Trustees for those who not only wish to enjoy, but to study, assembled in one accessible locality, native California plants; and for the advancement of science and education with reference to plant life indigenous to the State of California.

ITS PURPOSES: (a) An institution founded primarily for scientific research in the field of local botany.

(b) To preserve the native California flora, try to replenish the depleted supply of some of the rarest plants which are rapidly being exterminated, and bring together in a comparatively small area as complete a collection of the rich store of native California plants as can be grown in this southern section of the state, thereby promoting the general welfare of the people of the state by providing the means for encouraging and carrying on the above mentioned activities in said state and by doing such other things as may be necessary and desirable to carry out the objects hereof."

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DR. ERNEST A. BRYANT GARDEN PUBLICATIONS FUND
RANCHO SANTA ANA BOTANIC GARDEN
R. F. D. Anaheim, California